Guide to the Classification of Mantoux Tuberculin Skin Test (TST) Results and the Management of TST-Positive and Other Clients

Step 1 — Classify the Mantoux tuberculin skin test result*

The following measurements of induration are classified as positive:**

≥ 5 mm	≥ 10 mm	≥ 15 mm
• HIV-positive persons • Persons with evidence of old, healed tuberculosis (TB) on a chest x-ray • Recent contacts of persons with active TB disease • Clients with organ transplants and other immunosuppressed clients	• Persons with medical risk factors for TB (***Table 2***) • Substance abusers • Recent arrivals from high incidence areas (***Table 3***) • Persons at higher risk for exposure to or infection with TB ***(Table 1)*** • Mycobacteriology lab personnel • Children 4 years of age or younger • Children/adolescents exposed to adults in high-risk categories ***(Tables 1, 2 & 3)***	• Persons at low risk for TB disease for whom testing is not generally indicated

*Only the Mantoux tuberculin skin test, read by a trained health-care worker (*never the client*), is acceptable. Tuberculin skin test results are classified according to a client's risk factors for tuberculosis. In general, a history of vaccination with BCG does not influence the need for tuberculin skin testing, the classification of TST results, or clinical decisions regarding the management of TST-positive individuals. ***See Tables 1, 2, 3 and 4.***

****High-risk contacts** - Certain contacts need medical follow-up even if their reaction is less than 5 mm, Because they are at high risk of both developing active TB disease and having a false-negative TST result. These include (1) HIV-infected contacts and (2) children younger than 4 years who were tested less than 12 weeks after the last exposure to TB. (No further evaluation is necessary when a child has a negative reaction to a TST given *more* than 12 weeks after the last exposure to TB.) ***See Step 2 and Table 4 (footnote *).***

Step 2 — If indicated, obtain a chest x-ray and a medical evaluation

Any person with a newly positive TST result, including high-risk contacts of a client with active TB disease (**as defined in Step 1**), should have a chest x-ray to screen for active TB disease. If the initial x-ray is normal, no follow-up x-rays are indicated. A repeat chest x-ray is not necessary for an asymptomatic client with evidence of old, healed TB on an x-ray taken within the previous 6 months.

Step 3 — Are TB symptoms present, or Is the x-ray abnormal?

Yes

- Fever
- Chills
- Tired
- Loss of appetite
- Weight loss
- Night sweats
- Prolonged Productive Cough
- Chest pain
- Coughing up blood

Evaluate for active TB disease

No

Provide treatment according to the guidelines in *Table 4*

Table 1. Persons at higher risk for exposure to or infection with TB

- Close contacts of person known or suspected to have active TB disease
- Foreign-born persons from areas where TB is common. ***See table 3***
- Residents and employees of high-risk congregate settings
  (e.g., correctional institutions, nursing homes, mental institutions, other long term residential settings, homeless shelters)
- Health care workers who serve high-risk clients
- Medically underserved, low income populations
- High-risk racial or ethnic minority populations
- Children exposed to adults in high-risk categories
- Persons who inject illicit drugs

Table 2. Medical risk factors for the development of active TB disease in TB-infected clients

- HIV infection (or risk for HIV in clients who decline HIV testing)
- New TB infection within the previous 2 years
- Evidence of old, healed TB on a chest x-ray
- Diabetes
- End-stage renal disease
- Prolonged corticosteroid therapy
- Other immunosuppressive therapy
- Cancer of the head and neck
- Hematologic and reticuloendothelial diseases (e.g., leukemia and Hodgkin's disease)
- Silicosis
- Chronic malabsorption syndromes
- Intestinal bypass or gastrectomy
- Being 10% or more below ideal body weight
- Substance abuse

Table 3. Areas of the world with higher incidence of TB

There is a high incidence of TB in Africa, Asia, Southeast Asia/Pacific Islands, Mexico, the Caribbean, parts of Central America and South America, especially in these countries (WHO Report 2002):

Afghanistan	**Nigeria**
Bangladesh	**Pakistan**
Brazil	**Philippines**
Cambodia	**Republic of Congo**
China	**Russian Federation**
Ethiopia	**South Africa**
India	**Tanzania**
Indonesia	**Thailand**
Kenya	**Uganda**
Mozambique	**Vietnam**
Myanmar	**Zimbabwe**

To Report a Case of TB or Still Have Questions:

Call the
Utah Department of Health
Tuberculosis Control
Refugee Health Program at
(801) 538-6096

you can also visit us at

www.health.state.ut.us/els/hivaids/tbrefugee.html

Table 4. Guidelines for treatment of latent tuberculosis infection by client risk factors, TST result, and age*

CANDIDATES FOR TREATMENT OF LATENT TUBERCULOSIS INFECTION (LTBI)

CATEGORY OF PERSON TESTED	TST <5 mm	TST ≥5 mm	TST ≥10mm	TST ≥15mm
Child <4 years and **recent contact***	TREAT	TREAT	TREAT	TREAT
HIV-infected and **recent contact***	TREAT	TREAT	TREAT	TREAT
Immunosuppressed and **recent contact***	TREAT	TREAT	TREAT	TREAT
HIV-infected	Do Not Treat	TREAT	TREAT	TREAT
Immunosuppressed persons	Do Not Treat	TREAT	TREAT	TREAT
Recent contact of TB case	Do Not Treat	TREAT	TREAT	TREAT
Fibrotic changes on chest x-ray	Do Not Treat	TREAT	TREAT	TREAT
Recent arrival from endemic country	Do Not Treat	Do Not Treat	TREAT	TREAT
Injection drug user	Do Not Treat	Do Not Treat	TREAT	TREAT
Resident/employee in an institutional setting §	Do Not Treat	Do Not Treat	TREAT	TREAT
Mycobacteria lab personnel	Do Not Treat	Do Not Treat	TREAT	TREAT
High-risk clinical conditions‡	Do Not Treat	Do Not Treat	TREAT	TREAT
Child <4 years	Do Not Treat	Do Not Treat	TREAT	TREAT
Persons <18 exposed to high-risk adults	Do Not Treat	Do Not Treat	TREAT	TREAT
No risk factors (TST discouraged)	Do Not Treat	Do Not Treat	Do Not Treat	TREAT

*Recent contacts who are initially TST-negative should be started on therapy if they are under 4 years of age or are immunocompromised. TST should be repeated 12 weeks after last exposure to TB Case. Treatment can be discontinued after second negative TST in children. HIV infected contacts should receive a full course of treatment, even if they have a reaction of less than 5mm. Other immunosuppressed clients with a second negative TST need to be evaluated by a physician.

§TST Conversion**:** An increase in reaction size of ≥ 10 mm within 2 years should be considered a TST conversion indicative of recent infection with *M.tb*.

‡Silicosis, diabetes mellitus, chronic renal failure, some hematologic disorders (e.g. leukemias and lymphomas), other specific malignancies (e.g. carcinoma of the head and neck or lung), weight loss of ≥10% of ideal body weight, gastrectomy, intestinal bypass.

Tuberculin skin testing is not contraindicated for persons who have been vaccinated with BCG. A positive TST in a BCG vaccinated person needs further evaluation.